

REMARKS

ELECTION/RESTRICTION

The Office Action provides a Restriction Requirement for claims 21-23 and for constructive election of previously elected claims. Upon allowance of generic claim 1, Applicant requests the reentering of claims 21-23.

Claim Rejections – 35 U.S.C. §103

Claims 1-3, 5, 7, 11, 14-16, and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wang et al (US 5,419,038) in view of Latasiewicz (US 4,316,235). Claim 1 is the only independent claim in the Application. In response, claim 1 has been amended again to make clear that the term "circuit board" in the claim refers to "printed circuit boards" rather than semiconductor chips and circuits formed by deposition and etching techniques. In support, the following dictionary definitions are evidence that "circuit boards" or "printed circuit boards" cannot be the type of semiconductor substrates taught by Wang:

"printed-circuit board" (1) **(general)**. A board for mounting of components on which most connections are made by printed circuitry. (2) **(double-sided)**. A board having printed circuits on both sides. (3) **(single sided)**. A board having printed circuits on one side only. IEEE Standard Dictionary of Electrical and Electronics Terms, 3rd Edition, 1984.

"circuit board" A flat plastic board on which electrically conductive circuits are laminated. Synonymous with *printed circuit board*. See

adapter, card, and motherboard. Que's Computer User's Dictionary, 5th Edition, 1994.

"board" A panel made of insulating material that contains circuits on one or both sides. See bubble board, daughterboard, expansion board. See also short card. IBM Dictionary of Computing, Tenth Edition (1993).

In sum, the three technical dictionaries consulted all corroborate that circuit boards (and "printed circuit boards") do not encompass the deposited and etched semiconductor substrates of Wang. In addition, the Office Action admits that Wang fails to disclose the second element of claim 1: fastening at least one electrically conductive pre-formed wire. Since a "printed circuit board" is required in the first and third elements of claim 1, Wang thus fails to teach 3 of the 4 elements of claim 1. Moreover, Wang is from the nonanalogous field of art relating to semiconductors and is far removed from the field of printed circuit boards. Wang cannot support a rejection of claim 1 under 35 U.S.C. 103.

Latasiewicz does not cure the failure of Wang to teach the elements of Claim 1. Latasiewicz fails to teach the tilting step of claim 1 and is nonanalogous art. Specifically, the problem solved in Latasiewicz relates to moving a portion of a printed wiring board upward in order for luminescent diodes on that board to become visible to a human viewing the outside casing of the device (in this case, a clock). As shown in Latasiewicz and explained at Latasiewicz, column 2, lines 53-60, the invention in Latasiewicz requires that the separated substrates be moved in a parallel, raised fashion relative to each other. In contrast, the subject of the present invention is the art of joining separate printed wiring boards in order to conserve two-dimensional space (typically horizontal foot print) of a circuit board. Tilting of one board relative to another allows more features to be packed into the same footprint of a board. As disclosed in the specification, this tilting is generally accomplished by

mounting one board perpendicular to the other, which, by definition, is the maximum "tilting" possible. The invention in Latasiewicz teaches away from such tilting since its goal is simply to raise its diode for better viewing. Any orthogonal tilting would actually move the diodes away from the upper viewing window. Latasiewicz, therefore, teaches away from the present invention.

In sum, Latasiewicz not only fails to teach or disclose the tilting element now included in Claim 1, it is nonanalogous art and teaches away from the present invention. Claim 1 is, therefore, allowable over Latasiewicz. All claims that depend from claim 1 are similarly allowable.

Applicant also notes that Claim neither Wang nor Latasiewicz teach the limitations of claim 2. Specifically, the Office Action admits that Wang fails to teach any scoring (which would be non-analogous to semi-conductor fabrication in any event) as provided in claim 2. Latasiewicz similarly teaches away from a scoring operation since the boards in Latasiewicz are separated by pressure upon breakaway portions. See column 2, lines 47-51.

Similarly, neither Wang nor Latasiewicz teaches use of insulated wires as provided by claim 11.

The holding elements of claims 14-16 are also not disclosed or taught by either Wang or Latasiewicz. Claim 14 is not taught since Wang does not teach a holding fixture and Latasiewicz teaches away from a non-planar angle. Claim 15 is not taught since neither reference teaches using a frame member of an assembly to hold one of the substrates. The fixture 38 shown in Latasiewicz is a fixture for applying break-apart pressure use during manufacture. See column 2, lines 47-51. Likewise, the two frame members required by claim 16 are not taught by either reference.

4) (Previously Presented) The process of **claim 1**, further comprising testing the connection between the first and second circuit patterns prior to the step of separating the common circuit board substrate into separate substrates.

Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (US 5,419,038)/Latasiewicz (US 4,316,235) and further in view of Degani et al (US 6,370,766). Degani, however, does not cure the defects of Wang nor teach or disclose the elements of Claim 1, namely, the creation of multiple electrically connected circuit boards from a common substrate, which multiple circuit boards remain electrically connected both before and after separation from the common substrate. No disclosure of tilting the connected boards relative to each other is contained in Degani. As a result, Degani's limited teaching related to testing multiple boards while still in situ on a common board does not supply the elements missing from Latasiewicz. Claim 1, therefore, is allowable over both Latasiewicz and Degani and the combination thereof. Since Claim 1 is allowable, both Claims 1 and 20 are allowable.

Moreover, Degani does not teach the elements of claim 4 for which Degani is cited. Specifically, the testing in Degani by applying external test fixtures does NOT provide a reasonable means for "testing the connection between the first and second circuit patterns" as provided in claim 4. The type of testing in Degani allows for separate testing of each circuit prior to separating rather than connections between the circuits. Claim 4 is therefore allowable regardless of the allowability of claim 1.

Claims 8-9 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (US 5,419,038)/Latasiewicz (US 4,316,235) in view of Official Notice. Official Notice, of course, does not teach or disclose the elements of Claim 1, namely, the creation of multiple connected circuit boards from a common

substrate, which multiple substrates remain electrically connected both before and after separation from the common substrate. No disclosure of tilting the connected boards relative to each is included within any Official Notice of a method of separating boards. Claim 1, therefore, is allowable over both Latasiewicz and Official Notice of methods of separating boards and the combination thereof. Since Claim 1 is allowable, each of Claims 8-9 and 19 is allowable.

Claims 17 and 24-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (US 5,419,038)/Latasiewicz (US 4,316,235) as applied to claims 1, 3, and 15 above, and further in view of Feeney (US 3,780,430). Claim 17 was rejected under 35 U.S.C. 103(a) as being unpatentable over Latasiewicz (US 4,316,235) in view of Feeney (US 3,780,430). In response, Applicant cannot determine which portion of Feeney teaches holding a substrate in proximity to a sidewall of a cabinet that houses the separated substrates.

Regardless, Feeney does not teach or disclose the elements of Claim 1, namely, the creation of multiple connected circuit boards from a common substrate, which multiple substrates remain electrically connected both before and after separation from the common substrate. No disclosure of tilting the connected boards relative to each other is contained in Feeney. As a result, Feeney's limited teaching of a method of manufacturing multiple boards while still in situ on a common board does not supply the elements missing from Latasiewicz. Claim 1, therefore, is allowable over both Latasiewicz and Feeney and the combination thereof. Since Claim 1 is allowable, each of Claims 8-9 and 19 are allowable.

In sum, Claims 1-5, 7-10 and 14-25 are pending. Each is believed to be in condition for allowance.

Claim 20 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (US 5,419,038)/Latasiewicz (US 4,316,235) as applied to claims 1 and 3 above, and further in view of Degani et al (US 6,370,766). With respect to claim 20, the external connection for testing taught by Degani is not within the scope

of the element of Claim 20 and is irrelevant to Claim 20. Specifically, the external "connection" in Claim 20 is a further limitation upon the "fastening" in the second element of Claim 1. The second element of Claim 1 requires that the fastening be between the first and second circuit patterns, each of which is on the common substrate. No such fastening connection between "the first and second circuit patterns on the common substrate" is taught by Degani. Since Degani only involves external connecting with external testing equipment and not the two circuits on the substrate, it does not involve the "fastening" required by the second element of claim 1 and is therefore irrelevant to Claim 20.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is hereby authorized to call Applicant's Attorney, Richard Spooner, at Telephone Number (585) 423-5324, Rochester, New York.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rich F. Spooner", written over a horizontal line.

Richard F. Spooner
Attorney for Applicant
Registration No. 43,928

RFS/pn
Xerox Corporation
Xerox Square 20A
Rochester, New York 14644